

- 2 -

IN THE CLAIMS

Claims 28-52 are currently pending in the subject application. In accordance with 37 CFR 1.121, a complete listing of the claims is provided.

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Previously Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)

- 3 -

15. (Cancelled)
16. (Previously Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Previously Cancelled)
20. (Previously Cancelled)
21. (Previously Cancelled)
22. (Previously Cancelled)
23. (Previously Cancelled)
24. (Previously Cancelled)
25. (Previously Cancelled)
26. (Previously Cancelled)
27. (Cancelled)
28. (New) A method for determining an emission source, said method comprising the steps of:

measuring concentrations of an emitted material at a single measurement point;

- 4 -

measuring changes in wind velocity over time;
performing spatial temporal analysis of said concentration measurements;
generating one or more wind vectors based on said measured changes in wind velocity;
collating said measured concentrations with said wind vectors to generate an emissions plot; and
defining boundaries for one or more plumes on said emissions plot wherein said one or more plumes are indicative of an emission source.

29. (New) The method as claimed in claim 28, wherein said changes in wind velocity are measured independently of said single measurement point.

30. (New) The method as claimed in claim 28, wherein said single measurement point comprises a single sensor positioned any distance from a potential emission source.

31. (New) The method as claimed in claim 29, further including the step of superimposing a known emission concentration on said sensor during a monitoring cycle, so that sensitivity of said sensor is enhanced.

32. (New) A method for determining a source of an emission, said method comprising the steps of:

measuring concentrations of an emission at a single measurement point;
measuring changes in wind velocity over time;
performing spatial temporal analysis of said concentration measurements;

- 5 -

generating one or more wind vectors based on said measured changes in wind velocity;
generating a trajectory for the emission based on said measured emission concentrations
and said wind vectors;
projecting back along said trajectory and correlating one or more points along said
trajectory as sources of a possible emission; and
validating one of said points as the source of the emission.

33. (New) The method as claimed in claim 32, further including the step of generating
another trajectory based on emission concentrations measured at another location, and said step
of validating comprising taking points in agreement on both of said trajectories.

34. (New) The method as claimed in claim 32, wherein said single measurement point
comprises a single sensor positioned any distance from a potential emission source.

35. (New) The method as claimed in claim 34, further including the step of superimposing a
known emission concentration on said sensor during a monitoring cycle, so that sensitivity of
said sensor is enhanced.

36. (New) A method for determining a source of an emission, said method comprising the
steps of:

measuring concentrations of an emission at a single measurement point;
measuring changes in wind velocity over time;
performing spatial temporal analysis of said concentration measurements;

- 6 -

generating one or more wind vectors based on said measured changes in wind velocity;
generating two or more trajectories for the emission based on said measured emission concentrations and said wind vectors;
overlapping said two or more trajectories to provide an area of overlap; and
determining the source of the emission from said overlap area.

37. (New) The method as claimed in claim 36, further comprising the step of validating said emission source in said area of overlap.

38. (New) The method as claimed in claim 36, wherein said step of measuring concentrations of an emission comprises taking measurements from a sensor that is moving to produce a plurality of measurements at different locations.

39. (New) The method as claimed in claim 36, wherein said step of measuring comprises positioning a plurality of sensors in a spaced relation at locations about a facility.

40. (New) A method for determining a source of an emission, said method comprising the steps of:

measuring concentrations of the emission using a sensor that is moving through a defined area;

tracking positions of the movement of said sensor;

mapping a plurality of said tracked positions of said sensor to the defined area with said associated concentration measurements.

41. (New) The method as claimed in claim 40, wherein said defined area comprises an area out of doors, and said step of tracking comprises monitoring the movement of said sensor with a GPS device.

- 7 -

42. (New) The method as claimed in claim 41, wherein said defined area comprises a space in a building, and said step of tracking comprises receiving a signal from a transmitter associated with said sensor.

43. (New) The method as claimed in claim 42, wherein said emission comprises a compound indicative of an explosive.

44. (New) A method for determining a concentration for a gas, said method utilizing a sensor and comprising the steps of:

monitoring an output from the sensor during a first exposure condition;

determining a rate of change for the sensor output for said first exposure condition;

monitoring the output from the sensor during a second exposure condition and determining a rate of change for the sensor output for said second exposure condition;

determining differences in said rates of change for the sensor output during said first and said second exposure conditions; and

correlating the differences in said rates of change to determine the concentration of the gas.

45. (New) The method as claimed in claim 44, wherein said step of correlating comprises a logarithmic curve fitting to quantify the differences in said rates of change.

46. (New) The method as claimed in claim 44, wherein said first exposure condition comprises subjecting the sensor to a sample comprising a sample of the gas and another compound.

47. (New) The method as claimed in claim 46, wherein said second exposure condition comprises eliminating the other compound from said sample.

48. (New) The method as claimed in claim 44, wherein said second exposure condition comprises subjecting the sensor to a sample comprising a sample of the gas and a plurality of other compounds.

- 8 -

49. (New) The method as claimed in claim 44, wherein said first exposure condition comprises a sample of the gas and said second exposure condition comprises a sample of a known concentration.

50. (New) The method as claimed in claim 49, wherein said second exposure condition comprises superimposing a compound to amplify the response of the sensor.

51. (New) The method as claimed in claim 50, wherein said second exposure condition comprises superimposing a compound for increasing the sensitivity of the sensor.

52. (New) The method as claimed in claim 44, wherein said sensor comprises a plurality of sensors and each of said plurality of sensors is configured to measure a different gas.